REMARKS

The Office Action dated August 11, 2005 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 2, 3, 7, 10, 15, 17, 19, 20, 24, 25, 62, 64, 66, 68, and 71 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Claims 1, 8, 9, 16, 23, 61, 65, 69, 70 have been canceled without prejudice. No new matter has been added and no new issues are raised which require further consideration or search.

The Office Action indicated that claims 38-60 have been allowed. Therefore, Claims 2-7, 10-15, 17-22, 24-37, 62-64, 66-68 and 71 are respectfully submitted for consideration.

As a preliminary matter, the Office Action indicated that claims 4-7, 10-14, 17, 18, 24-37, 63, 64, 67, 68, and 71 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 7, 10, 17, 24, 25, 64, 68 and 71 have been amended such that they are now in independent form including all of the limitations of the base claim and any intervening claims. Claims 4-6, 11-14, 18, 26-37, 63, and 67 are dependent upon claims 7, 10, 17,

25, 64 and 68, respectively. Accordingly, all of claims 4-7, 10-14, 17, 18, 24-37, 63, 64, 67, 68, and 71 are now in condition for allowance.

In the Office Action, claims 8, 9, 15, 69, and 70 were rejected under 35 U.S.C. §102(e) as being anticipated by Larson (U.S. Patent No. 6,115,705). Applicants submit that the rejection is rendered moot for the following reasons.

Claims 8, 9, 69 and 70 have been canceled. Claim 15 has been amended to be dependent upon claim 10, which was indicated as being allowable. As such, the rejection of claims 8, 9, 15, 69, and 70 has been rendered moot.

Claims 16 and 19 were rejected under 35 U.S.C. §102(b) as being anticipated by Nemes (U.S. Patent No. 5,893,120). Applicants respectfully submit that the rejection is rendered moot for the following reasons.

Claim 16 has been canceled; claim 19 has been amended to be dependent upon claim 17, which was indicated as being allowable. Accordingly, the rejection of claims 16 and 19 is rendered moot.

Claims 20 and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by Kass (U.S. Patent No. 5,566,324). The rejection is respectfully traversed for the reasons which follow.

Claim 20, upon which claims 21 and 22 are dependent, recites a method which includes associating an entry of a plurality of entries in a cache with a timestamp, incrementing the timestamp, and deleting the entry of the plurality of entries in the cache based on a value of the timestamp. The timestamp is configured to be incremented every

second and wrapped around to 0 when the value of the timestamp reaches a predetermined maximum value.

As will be discussed below, the cited reference of Kass fails to disclose or suggest all of the elements of claim 20, and therefore fails to provide the features discussed above.

Kass discloses a method and computer system including a main memory prefetch cache. The computer system includes a processor and a processor cache coupled to the processor. The computer system further includes a memory controller coupled to the processor and a main memory coupled to the memory controller. The memory controller includes a main memory prefetch cache and a cache control circuit. The cache control circuit is coupled to the prefetch cache and is used to determine whether a cache hit has occurred, where the current line requested by the processor is stored in the prefetch cache. If a cache hit has occurred, then the control circuit causes the retrieving of the current line from the prefetch cache for use by the processor and also causes the overwriting of the current line in the prefetch memory with the next line from the main memory. If the prefetch cache does not contain the current line requested by the processor, thereby signifying a cache miss, then current line is retrieved from the main memory for use by the processor. The next line is then retrieved from the main memory and is stored in the prefetch cache.

Applicants respectfully submit that Kass fails to disclose or suggest a timestamp configured to be incremented every second and wrapped around to 0 when the value of

the timestamp reaches a predetermined maximum value, as recited in claim 20. Kass only discloses the use of a counter which contains a count value indicating how recently the contents of the prefetch cache register have been used (Kass, Column 4, lines 51-56). This does not correspond to the timestamp of the present invention. Therefore, Kass fails to disclose or suggest all of the elements of claim 20.

Additionally, claim 21 is dependent upon claim 20. Therefore, claim 21 should also be allowed for at least its dependence upon claim 20, and for the specific limitations recited therein.

Claims 20 and 22 were rejected under 35 U.S.C. §102(e) as being anticipated by Bogin (U.S. Patent No. 6,658,533). The rejection is respectfully traversed for the reasons which follow.

As will be discussed below, Bogin fails to disclose or suggest all of the elements of claims 20 and 22, and therefore fails to provide the features discussed above.

Bogin discloses a write cache that reduces the number of memory accesses required to write data to main memory. When a memory write request is executed, the request updates the relevant location in cache memory and also updates the corresponding location in main memory. A separate write cache is dedicated to temporarily holding multiple write requests so that they can be organized for more efficient transmission to memory in burst transfers. All writes within a predefined range of addresses can be written to memory as a group. Entries may be held in the write cache

until a minimum number of entries are available for writing to memory, and a least-recently-used mechanism can be used to decide which entries to transmit first.

Bogin, like Kass, does not disclose or suggest the timestamp of the present invention, as recited in claims 20 and 22. Rather, Bogin discloses assigning a counter value to each entry as it is placed in cache, and incrementing the counter after each assignment (Bogin, Column 5, lines 46-50). Bogin does not disclose or suggest a timestamp which may be incremented every second, and wrapped around to 0 when the value of the timestamp reaches a predetermined maximum value. Therefore, Bogin does not disclose the timestamp of the claimed invention. As such, Applicants respectfully request that the rejection of claims 20 and 22 over Bogin be withdrawn.

In addition, claim 22 is dependent upon claim 20, and therefore claim 22 should also be allowed for at least its dependence upon claim 20 and for the specific limitations recited therein.

Claim 23 was rejected under 35 U.S.C. §102(e) as being anticipated by Huang (U.S. Patent No. 6,683,887). Applicants respectfully submit that this rejection is rendered moot because claim 23 has been canceled.

Claims 1-3, 61, 62, 65 and 66 were rejected under 35 U.S.C. §103(a) as being unpatentable over Spinney (U.S. Patent No. 5,390,173) in view of Handy "The Cache Memory Book." The Office Action took the position that Spinney discloses all of the elements of the claims, with the exception of the second structure used to perform the search being a cache. The Office Action then relies upon Handy as allegedly curing this

deficiency in Spinney. Applicants respectfully submit that the rejection is rendered moot for the following reasons.

Claims 1, 61, and 65 have been canceled without prejudice. Claims 2-3 have been amended to be dependent upon claim 7, which was indicated as being allowable. Claim 62 has been amended to be dependent upon claim 64, which was indicated as being allowable. Claim 66 has been amended to be dependent upon claim 68, which was also indicated as being allowable. Thus, the rejection of claims 1-3, 61, 62, 65 and 66 is rendered moot.

In view of the above amendments to the claims and arguments, Applicants respectfully submit that all of claims 2-7, 10-15, 17-22, 24-37, 62-64, 66-68 and 71 are now in condition for allowance. It is therefore respectfully requested that a timely Notice of Allowance be issued in this case.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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